

Chapter 1: Introduction and Background

1.1 Introduction

Squaw Creek National Wildlife Refuge (Refuge), is located in Holt County in northwest Missouri, approximately midway between Kansas City, Missouri and Omaha, Nebraska, 2.5 miles off Interstate Highway 29 (Figure 1). This 7,415-acre refuge includes approximately 6,700 acres of floodplain that is managed as wetland, grassland and riparian habitats that attract up to 250 Bald Eagles, 300,000 Snow Geese, and 100,000 ducks during fall and winter seasons.



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The Refuge also manages 34 easements obtained from the Farm Service Agency, previously known as the Farmers Home Administration, or FmHA. These easements lie in 10 of the 15 counties that make up the Squaw Creek Wildlife Management District (Figure 2).

The Refuge gets its name from Squaw Creek, a major stream that drains the Loess Hills on the east and flows through the Missouri River floodplain lands of the Refuge via a man-made ditch, and then empties into the Missouri River approximately 8 miles south of the Refuge. Davis Creek, which has also been ditched, flows along the eastern Refuge boundary and joins Squaw Creek just after leaving the Refuge. The

Refuge's west boundary is about 5 miles from the closest bank of the Missouri River. The Santa Fe-Burlington Northern railroad embankment runs along the west Refuge boundary. Its embankment provides some protection from Missouri River overflows.

Refuge lowlands were once a part of a large natural marsh in the Missouri River floodplain. Historically, this area was heavily used by waterfowl and other migratory birds during their spring and fall migrations.

The almost 700 acres of Refuge upland include a segment of the 200-mile long band of hills known as the Loess Hills. The Loess Hills, formed by wind-deposited, silt-sized soil particles, are a geologic phenomenon unique to the Missouri River Valley. While loess deposits do exist elsewhere in North America and the world, only in the Missouri River Valley are the deposits deep enough to create such an extensive land form. The Loess Hills support rare remnants of native prairie and prairie associated wildlife.

Figure 1: Location of Squaw Creek NWR

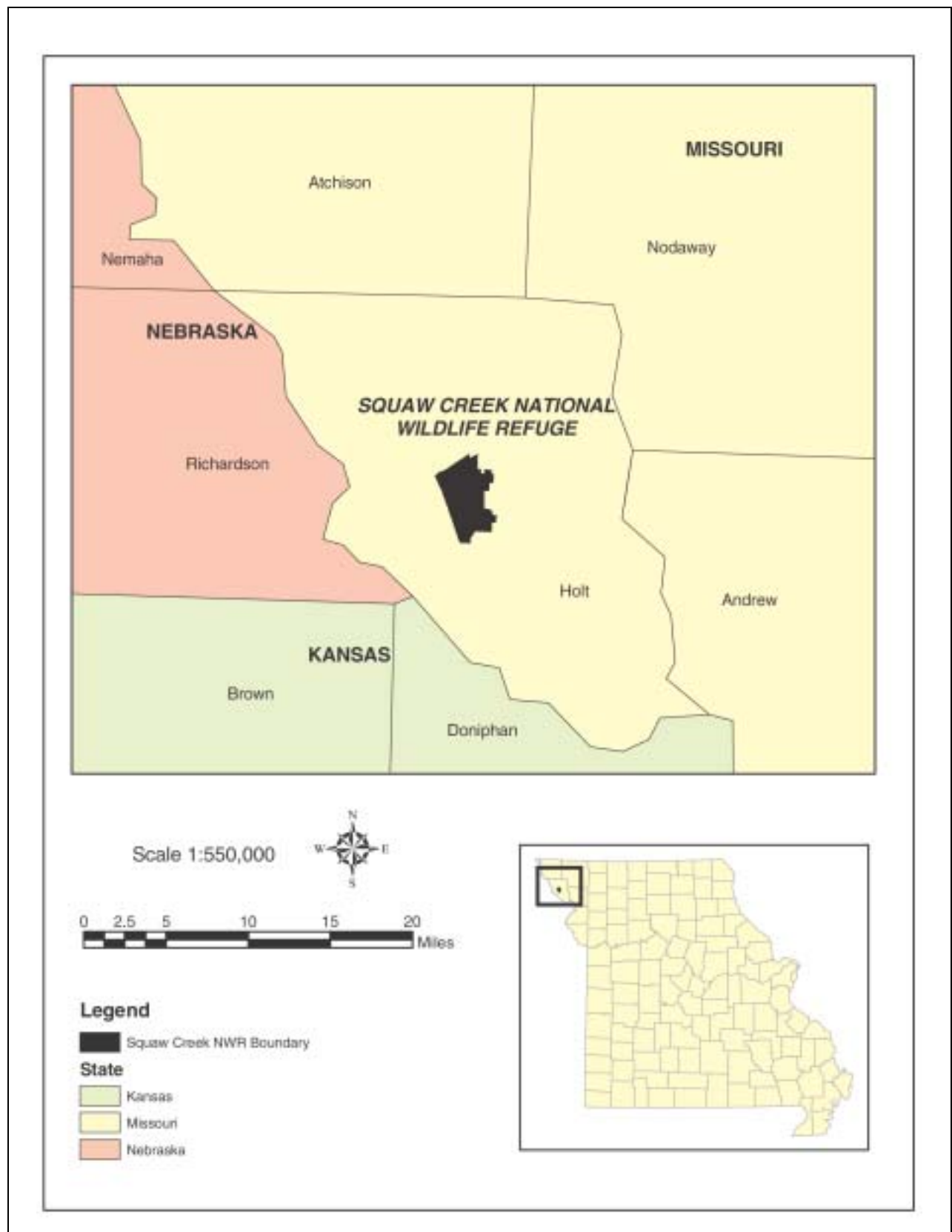
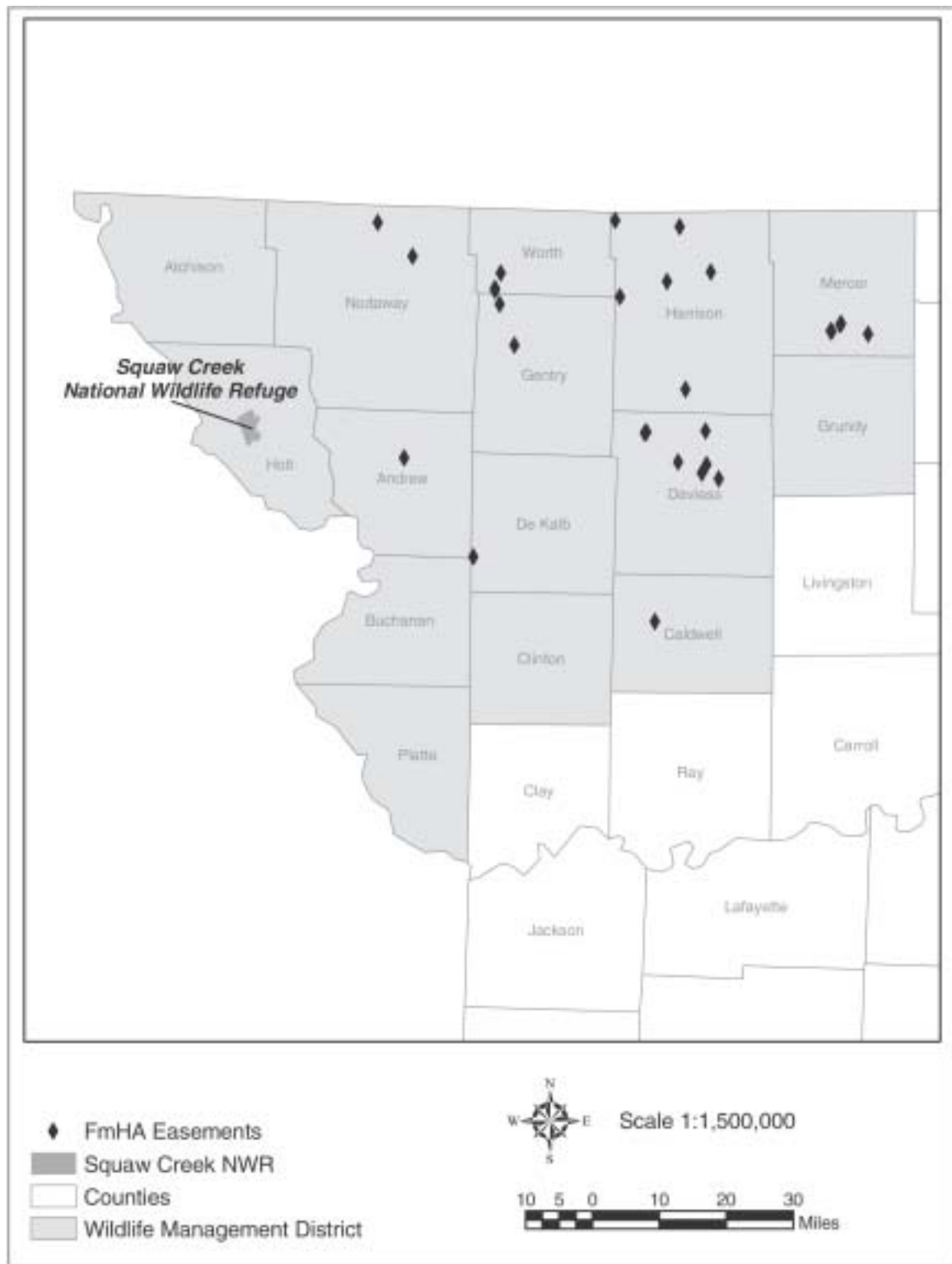


Figure 2: Squaw Creek Wildlife Management Area



The Refuge hosts 301 species of birds, 33 mammals, and 35 reptiles and amphibians. Missouri's largest wet prairie remnant (983 acres) is on the Refuge and it is home to Missouri's largest meta-population of the Eastern Massasauga rattlesnake.

The quality of Squaw Creek Refuge wetland habitat is constantly influenced by the heavy silt loads from the 60,000-acre Loess Hills watershed being carried into the Refuge by five creeks that converge to become Squaw Creek and Davis Creek.

1.2 Refuge Purpose

Signed into existence by President Franklin D. Roosevelt as the “Squaw Creek Migratory Waterfowl Refuge” on August 23, 1935, in Executive Order 7156, the Refuge's purpose was to “... effectuate further the purposes of the Migratory Bird Conservation Act.” The Executive Order further stated that lands are to be used “as a refuge and breeding ground for migratory birds and other wildlife.”

Throughout the 100-year existence of the National Wildlife Refuge System, its functional direction and purpose have evolved to reflect its ever increasing value as a collection of irreplaceable habitats representing the diverse natural heritage of America. In so doing, the purposes of individual refuges such as Squaw Creek have broadened from somewhat narrow definitions aimed at specific animal groups to include entire ecosystems and all of the wildlife and plants within them.

Squaw Creek NWR is also managed to preserve, restore, and manage wetland and upland habitats that represent the Lower Missouri River ecosystem for the benefit of a diverse complex of fauna and flora, with emphasis on threatened and endangered species; and, to provide opportunities for the public to enjoy wildlife-dependent recreation, including environmental education and public outreach.

1.3 Refuge Vision for the Future

The Refuge staff envision a future that includes:

- Restoration and preservation of the wetland ecosystems of the Missouri River floodplain continues to be the major management thrust of Squaw Creek National Wildlife Refuge.
- Refuge wetlands, which include the largest remnant wet prairie in Missouri, continue to provide safe habitat for concentrations of waterfowl and other birds during the migration and nesting seasons.
- The historic threat of wetland sedimentation has declined significantly as managers of the vast surrounding agriculture lands employ more conservative practices advocated by the Refuge staff and other agencies.
- The Refuge habitat diversity emphasizes both wetland and grassland, interspersed with stands of mixed shrubs and woodlands, managed on a scale to minimize habitat fragmentation and to be attractive to indigenous species as well as neo-tropical and passerine birds.
- Habitat diversity broadens each year as progress is made to convert former monotypic stands of reed canary grass, American lotus, and croplands to aquatic and upland species complexes that benefit both indigenous and migratory wildlife.
- Squaw Creek National Wildlife Refuge continues to be a destination for people to enjoy wildlife-dependent recreation. Dynamic environmental education and interpretive displays and programs, presented in well designed facilities, help the public to understand

and become supportive of the Refuge staff's efforts to conserve, preserve and manage wildlife resources and their habitats.

- The Refuge serves as an outdoor laboratory for biological researchers whose study results aid in the management for species of special concern such as the Eastern Massasauga rattlesnake, Blandings turtle and the Least Bittern.
- The multi-disciplined staff of biologists, technicians, and support personnel are a well trained team proficient in their functions of serving Refuge visitors, cooperators, and the general public, in their stewardship of the resources put in their charge, and in their maintenance of Refuge facilities and equipment. This team places high value on its connections with the community and relies heavily on stakeholder input.
- The Refuge budget, staff, and administrative facilities are adequate to implement the strategies required to achieve the goals and objectives set forth in this plan.

1.4 Purpose and Need for the Plan

This Comprehensive Conservation Plan (CCP) identifies the role Squaw Creek NWR will play in supporting the mission of the National Wildlife Refuge System and provides primary management guidance for the Refuge. The plan articulates management goals for the next 15 years and defines objectives and strategies that will achieve those goals. Several legislative mandates within the National Wildlife Refuge System Improvement Act of 1997 have guided the development of this plan. These mandates include:

- Wildlife has first priority in the management of refuges.
- Wildlife-dependent recreation activities of hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation are the priority public uses of the Refuge System. These uses will be facilitated when they do not interfere with a refuge's purposes or the mission of the Refuge System.
- Other uses of the Refuge will only be allowed when they are determined to be appropriate and compatible with the Refuge purposes and mission of the Refuge System.

Following the recommendations in the CCP will enhance management of Squaw Creek NWR by:

- Providing a clear statement of direction for future management of the Refuge.
- Giving Refuge neighbors, visitors, and the general public an understanding of the Service's management actions on and around the Refuge.
- Ensuring that the Refuge's management actions and programs are consistent with the mandates of the National Wildlife Refuge System.
- Ensuring that Refuge management is consistent with federal, state and county plans.
- Establishing long-term Refuge management continuity.
- Providing a basis for the development of budget requests for Refuge operations, maintenance, and capital improvement needs.

1.5 The U.S. Fish and Wildlife Service

"Working with others to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people." *Mission of the U.S. Fish and Wildlife Service*



The U.S. Fish and Wildlife Service is the primary federal agency responsible for conserving, protecting, and enhancing fish and wildlife and their habitats for the continuing benefit of the American people. Specific responsibilities include enforcing federal wildlife laws, managing migratory bird populations, restoring nationally significant fisheries, administering the Endangered Species Act, and restoring wildlife habitat such as wetlands. A significant portion of the Service's mission is accomplished within the National Wildlife Refuge System.

1.5.1 The National Wildlife Refuge System

"To administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans." *Mission of the National Wildlife Refuge System*



Managing the National Wildlife Refuge System has evolved into a significant role for the Service. Founded in 1903 by President Theodore Roosevelt with the designation of Florida's Pelican Island as a refuge for herons and egrets, the National Wildlife Refuge System is the world's largest collection of lands specifically managed for fish and wildlife. The System is a network of more than 500 national wildlife refuges encompassing more than 93 million acres of public land and water. The majority of these lands - 82 percent - is in Alaska, with approximately 16 million acres in the lower 48 states and several island territories. Refuges provide habitat for more than 5,000 species of birds, mammals, reptiles, amphibians, fish, and insects.

Like Pelican Island, many early national wildlife refuges were created for herons, egrets and other water birds. Others were set aside for large mammals such as elk and bison. Most refuges, however, have been created to conserve migratory birds. This is a result of the United States' responsibilities under international treaties for migratory bird conservation as well as other legislation, such as the Migratory Bird Conservation Act of 1929.

National wildlife refuges also play a vital role in preserving endangered and threatened species. Among the refuges that are well known for providing habitat for endangered species are Aransas NWR in Texas, the winter home of the whooping crane; the Florida Panther Refuge, which protects one of the nation's most endangered mammals; and the Hawaiian Islands Refuge, home of the Laysan duck, Hawaiian monk seal, and many other unique species.

Refuges are great places for people, too. When it is compatible with their establishing purposes, refuges can be used for wildlife-dependent activities such as hunting, fishing, wildlife observation, photography, environmental education and interpretation. Many refuges have visitor centers, nature trails, automobile tours, and environmental education programs. Nationwide, more than 35 million people visited national wildlife refuges in 1999.

The National Wildlife Refuge System Improvement Act of 1997 established many mandates aimed at making the management of national wildlife refuges more cohesive. The preparation of

comprehensive conservation plans is one of those mandates. The legislation requires the Secretary of the Interior to ensure that the mission of the National Wildlife Refuge System and purposes of the individual refuges are carried out. It also requires the Secretary to maintain the biological integrity, diversity, and environmental health of the Refuge System.

The administration, management, and growth of the System are guided by the following goals:

- To fulfill our statutory duty to achieve refuge purpose(s) and further the System mission.
- To conserve, restore where appropriate, and enhance all species of fish, wildlife, and plants that are endangered or threatened with becoming endangered.
- To perpetuate migratory bird, interjurisdictional fish, and marine mammal populations.
- To conserve a diversity of fish, wildlife, and plants.
- To conserve and restore where appropriate representative ecosystems of the United States, including the ecological processes characteristic of those ecosystems.
- To foster understanding and instill appreciation of native fish, wildlife, and plants, and their conservation, by providing the public with safe, high-quality, and compatible wildlife-dependent public use. Such use includes hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

1.6 Existing Partnerships

Working with others via intra- and interagency partnerships is important in accomplishing the mission of the Fish and Wildlife Service as well as assisting Squaw Creek National Wildlife Refuge in meeting its primary objective of providing a resting and feeding area for migratory birds and other wildlife. Partnerships with other federal and state agencies and with a diversity of other public and private organizations are increasingly important. Other agencies can provide invaluable assistance in research and maintenance. Private groups and non-profit organizations greatly enhance public involvement in the Refuge, building enthusiasm and support for its mission.

Besides the partnerships that the Fish and Wildlife Service holds on a national level, Squaw Creek NWR maintains informal partnerships with:

- Friends of Squaw Creek
- Missouri Department of Conservation
- Missouri Department of Natural Resources
- Missouri Department of Transportation
- Missouri Highway Patrol
- Missouri Land Improvement Contractors Association
- Natural Resources and Conservation Service
- Holt County Soil and Water Conservation District
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- Farm Service Agency
- Mound City Chamber of Commerce
- Burroughs Audubon Society
- Midland Empire Audubon Society

- Ducks Unlimited
- Missouri Western State College
- Northwest Missouri State University
- Towson University-Maryland
- Southern Illinois University
- St. Joseph Convention and Visitor Bureau
- St. Joseph Museum
- Mid-Buchanan High School
- U.S. Geological Survey
- Kickapoo Tribe
- Burlington Northern Railroad
- Oregon Rural Fire Department
- Rosendale Rural Fire Department
- Eastern Gamagrass Company
- Mound City Kiwanis
- Pony Express Boy Scout Council
- St. Joseph Public School System
- Holt County Public School System
- Southwest Missouri State University
- University of Missouri - Columbia

1.7 Legal and Policy Guidance

In addition to the legislation establishing the Refuge and the National Wildlife Refuge System Improvement Act of 1997, other federal laws, executive orders, and regulations govern the administration of Squaw Creek National Wildlife Refuge. See Appendix E for a list of the guiding laws and orders.